

AMERICAN BEE JOURNAL



GEORGE W. YORK,
Editor.

CHICAGO, ILL., APRIL 4, 1901.

FORTY-FIRST YEAR
No. 14.

WEEKLY

••• APRIL •••

BY EUGENE SECOR.

Did you hear the robin piping,
Calling for his mate?
He has just returned from Southland—
But, perhaps, she's late.
He tells us the plum-trees will soon be in white
To witness his vows and the bird marriage-rite.

Did you see the prairie crocus
Held in childish fist
Tight as lover holds his sweetheart
At the evening tryst?
This brave little flower opens early to fling
Its largess of gold on the honey-bee's wing.

Maples blush with ruddy blossoms
E'er the frost is gone;
And the showy golden willow
Brightens on the lawn.
The barn-fowls are noisy, proclaiming each day
The debt which they owe and are trying to pay.

Intersperst with cheery sunshine
Weeping clouds appear,
But, together, they encourage
Life with hope and cheer.
"The winter is past," every sleeping bud cries,
And seeds burst their caskets, determined to rise.

THE AMERICAN BEE JOURNAL.

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Reformed Spelling.—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change "d" or "ed" final to "l" when so pronounced, except when the "e" affects a preceding sound. Also some other changes are used.

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OBJECTS:

To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey commissioners.

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Order the Above Honey and then Sell It.

We would suggest that those bee-keepers who did not produce enough honey for their home demand this year, just order some of the above, and sell it. And others, who want to earn some money, can get this honey and work up a demand for it almost anywhere.

Address,

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AMERICAN BEE JOURNAL

ESTABLISH'D IN 1861 THE OLDEST BEE-PAPER IN AMERICA

41st YEAR.

CHICAGO, ILL., APRIL 4, 1901.

No. 14.

* Editorial Comments. *

Freight-Rate on Comb Honey.—We understand that there is to be an attempt made to raise the freight-rate on comb honey, one railroad company desiring to make the rating *double first-class* on comb honey in boxes with glass fronts, whether the glass is exposed or not. The present rating is $1\frac{1}{2}$ times 1st class. The proposed raise is "daubing it on a little too thick," we think, and the bee-men, the commission men, and the bee-keepers' supply men should line up and see if something can not be done to prevent such a prohibitory rating. Really, such a rating would well-nigh strangle the honey-business from a shipper's standpoint, especially on long hauls. For instance, the rate from California points to Chicago would be \$6.00 per 100 pounds, making it impossible for Western producers to market their comb honey in the Central or Eastern States. Such an advance in freight would injure the bee-men by making their business unprofitable, the commission men by greatly decreasing consignments, and the supply men, directly, by tending to drive the glass-front shipping-case out of the market; and indirectly by making the honey-business so unprofitable as to greatly curtail the demand for all lines of supplies.

Of course, the rating of "1st class" on shipments in close boxes will still remain, but that will be of little value from the fact that honey can not be exposed for sale in such boxes, which would necessitate shipping in one kind of a box, and repacking in another kind at destination.

We consider the proposed move a great injustice to a class of men who deserve better treatment. There should be sent in at once earnest protests from every one interested, as far as possible. Especially can the large commission houses present the matter of injury to shipments in glass-front boxes as compared with that to close packages, and an exhibit of that kind would have considerable weight, especially as it can be shown that the glass-front box is the safer package, on account of the contents being in plain sight, thus insuring safe handling.

The next meeting of the Western Classification Committee will be held May 7th, at Hotel del Monte, Monterey, Calif., so that petitions and protests against the threatened raise in freight-rate on honey should be forwarded at once to Mr. J. T. Ripley, chairman Western Classification Committee, Room 604 Great Northern Bldg., Chicago, Ill.

Eating Honey and Butter.—A Stray Straw in Gleanings in Bee-Culture reads thus: "Dr. Pauchet, La Nature says, replaces cod-liver oil with butyroniel, composed of two parts of fresh butter and one part of honey, beaten together. He says it is more readily accepted by children—a thing not hard to believe."

Editor Root then follows with this comment: "I remember my mother used to give me honey and butter when I had a cold. If there is any virtue in such a combination it might be a good idea for us parents to give our children bread and butter and honey, and lots of it. 'Honey and butter shall he eat,' the good Book says, and its advice is always good."

This reminds us that a certain family of our acquaintance informed us recently that they had eaten more honey than usual the past winter, and had been much healthier in consequence thereof. We haven't the least doubt that if more whole families would consume more honey in their regular daily diet they would all feel much better in every way.

Granulated Sugar and Glucose.—Mr. Thos. Wm. Cowan, editor of the British Bee Journal, but now residing in California, sent us the following communication early in January, but owing to our "deluge," and also moving to our new location, it was overlooked until a week or two ago:

EDITOR AMERICAN BEE JOURNAL:—On page 810 of the American Bee Journal for 1900, alluding to granulated sugar, Mr. E. E. Hasty endeavors to explain what he thinks I mean when I say "much of the granulated sugar of commerce is adulterated with glucose." Altho as a rule I do not notice criticisms, recognizing the right of every one to his opinions, and do not care to be drawn into any controversy respecting such criticisms, yet in this case, having a pleasant recollection of a personal visit to and talk with Mr. Hasty, I think it is due in courtesy to him to explain what I meant exactly what I said, because glucose is found in commerce both in the liquid and solid state.

On page 760 (1900) it will be found that, in explaining how glucose was made, I said, "The solutions are evaporated to a syrup consistency and sent into the market under the names of glucose, corn syrup: or to dryness, the solid product being known in commerce as grape-sugar." It is this dry glucose or grape-sugar that is used to adulterate granulated sugar, "the very dry white sugar" which Mr. Hasty alludes to. It is difficult to detect the adulteration by simply looking at the sugar. Raw or brown sugar is similarly adulterated. The presence of glucose when mixed with raw or refined sugars may be generally known by paying attention to the following points:

1. Sugars mixed with powdered or granulated corn glucose, on solution in water invariably leave white particles of glucose undissolved.

2. On submitting a commercial sugar containing glucose to the polariscope test, it will be seen that the reading does not remain constant, but gradually becomes less until a point is reached when the diminution ceases altogether. If the solution is observed immediately after preparation as little as three to five percent of glucose may thus be detected.

There are other methods of analysis, but they are only suited to the chemist's laboratory, and would not interest your readers. I can assure Mr. Hasty that it is not at all uncommon to find both raw sugar and refined dry granulated sugar adulterated with glucose.

With respect to pollen in honey, I can only say that in the large number of samples that I have examined, more or less pollen was found in every instance, and the presence of pollen-grains has frequently assisted me to determine with accuracy the source of the product.

If, however, I have the time and inclination I should like to criticize Prof. Cook's criticisms of my book, "The Honey-Bee," but altho I have a personal regard for him, I do not find that he has adduced anything which would cause me to alter any of my views expressed in that book.

Yours truly,
THOS. WM. COWAN.

To Drive Ants from the Lawn.—Fine coal ashes sprinkled about the burrows of ants will cause them to leave. Ashes may be used on the lawn without injury to the grass. Sifted ashes are best, but those fresh from the stove, shaken from the stove-shovel, will answer the purpose very well.—April Ladies' Home Journal.

Shall Bees Be Taxed? is a question that arises every now and then. Opinions differ. If one were to judge from what appears in the bee-papers on the subject, one would be likely to conclude that the great mass of bee-keepers were of the opinion that bees should not be taxed; because those who hold such opinion have a feeling that they are wronged by such taxation, and one who feels himself wronged is more likely to speak out than one who is satisfied with things as they are. One of the strongest presentations of that side of the case appeared in the Progressive Bee-Keeper under the signature of D. L. Tracy. Mr. Tracy takes the ground that they should not be taxed unless the tax be refunded in years of failure. In such years an assessor can not fairly value a colony of bees. But he rightly says that such a proviso would lead to great complication; hence, bees should not be taxed at all.

Unfortunately this reasoning would apply to other things as well as to bees. A farmer may have a failure of crops, but he is expected

to pay his taxes all the same. If his bees are to be exempt because in some years they make no return, then his swine should be forever exempt because some years the cholera strikes them.

Those who believe with Mr. Tracy probably reason something like this: "There are years in which my bees not only pay me no profit, but are an actual expense, so that I would be better off at the end of the year if I had no bees. Manifestly I should not pay taxes on a thing of no value, and as the failure may occur any year, the easy way out of the difficulty is to have the bees exempt from taxation every year."

This has a somewhat reasonable look on the face of it, but one may imagine an assessor replying something like this: "Everything is assest according to its valuation, not according to its profitableness to the owner."

"But," says the bee-keeper, "this year if the bees yield no harvest they are of no value, and should not be taxed."

"At what price do you sell colonies of bees in years of failure?"

"Why, just about the same as other years."

"Then they have a marketable value, and rightly, because even altho they may yield no return you do not give them away for nothing, holding them of value because of the possibility of what they may do in the future. And you seem to lose sight of the fact that you already have reduction of taxes because of the uncertain character of your bees. If you could count on getting each year straight along more than \$10 from each colony, as you did one year, then bees would readily sell for a much higher price than now—perhaps three times as much—and your tax on them would be three times as much. But the very fact that bees are uncertain property brings down their value, and so their price. If you insist that no tax should be paid in a year of failure, then in a good year when the profit on a colony of bees is as much as the profit on a cow, you ought to be willing to pay cow-tax on bees. When you are ready to give away bees for nothing, it will be time for you to say they have no value."

Mr. Tracy closes by saying, "I believe that all property should be taxed. But I do not believe from my experience that it would be right or just to call bees taxable property." Which is equivalent to saying that bees are not property, or else there is a direct contradiction.

A New Honey-Eater.—Mr. Walter R. Ansell, of Ramsey Co., Minn., has sent us a sketch of a little animal which has been recently discovered in western Australia. It has been named *Tarsipes Rostratus*, and, tho only as large as a common field-mouse, belongs,



like the kangaroo, to the Marsupial order—animals that carry their young in a pouch. It enjoys the unique distinction amongst mammals of obtaining its living exclusively by robbing flowers of their nectar with its long, thread-like tongue.

We have reproduced our new honey-loving friend for the benefit of our readers.

The Best Article that was ever published in the Review it would be difficult to point out. I doubt, however, if very many better ones have been published than the one by S. D. Chapman, that appears in this issue. It is somewhat lengthy, but not more so than is warranted by the magnitude of the subject. There is more in that article

than appears on the surface. The exact methods described may not be suited to many readers, but the thoroughness with which the writer has studied out the conditions of his locality, and devised a system of management adapted to those conditions, furnishes an encouraging example for us to follow."

This is what Editor Hutchinson says of the article by Mr. S. D. Chapman on page 215 of this number of the Bee Journal.

* The Weekly Budget. *

TO OUR DELINQUENT SUBSCRIBERS.—We often wish we could sit down in the homes of all our subscribers who are in arrears on their subscription to the Bee Journal, and try to explain to them that in all fairness to us and to themselves they ought to do their best to pay at least all arrearages, and if possible a year in advance. It should be remembered that our expenses in connection with issuing this journal are regular, and must be met. We can not put off our paper house, our printer, or our employees, with promises—they all must have their money. Hence, it is absolutely necessary that we should have the cash due on subscriptions in order to meet the necessary and constant expenses from week to week.

After we have favored several thousand subscribers by sending to them the Bee Journal for over two to four years without receiving any remittance, nor any acknowledgement of our requests to them to pay their subscriptions, we feel that we are justified should we decide to take some other means in order to hear from them. While we would like to have every bee-keeper read the American Bee Journal regularly, we would not willingly and knowingly continue to send it to any one who does not want it. But we must insist that all arrearages, if any, be paid. We shouldn't think that any one would wish to discontinue a paper of any kind without being clear on the publisher's books.

So many of us are careless about these matters. Of course, no one really intends never to pay his subscription. But do you know that when several thousand subscribers owe for say an average of three years at only one dollar, it amounts to a very large sum? And is it right that the publisher, who has faithfully furnish the paper right along, should be compelled to go without that much-needed and very large sum, which belongs to him, and which could just as well as not be paid? for it means only a few dollars to each one who owes, but in the aggregate, to the publisher, it means the difference between a small profit and a big loss?

Reader, are you in arrears on your subscription to the American Bee Journal, or to any other paper that you are reading? If so, will you not do the proper thing, and "pay that thou owest?"

THE HUNT FOR ERRORS in magazines, or in any publication, for that matter, is an interesting and profitable investment of time. Every article that is published in the Ladies' Home Journal, for instance, is read at least four times in manuscript form, and all statements of fact verified before it goes to the printer. Then it is read and revised by the proof-readers; goes back to the author for his revision; is re-read by the editors three or more times, at different stages; and again by the proof-readers possibly half a dozen times additional. Thus, each article is read at least 15 and often 20 times after leaving the author's hands until it reaches the public eye. But with all this unremitting vigilance, errors of the most obvious kind occasionally escape observation until perhaps the final reading, but it is rare, indeed, that an inaccuracy hides itself in the pages securely enough to go thru that magazine's edition.

The improvement in the proof-reading of most of the bee-papers is encouraging. Yet there is still room for the exercise of more care along this line in nearly all the periodicals devoted to bee-keeping, the old American Bee Journal included.

THE ROCKY MOUNTAIN BEE JOURNAL is the name of the latest claimant to the patronage of the bee-keeping public. It purports to be published "For Colorado and the Great Inter-Mountain Region." It is to be issued monthly, is neatly printed, and presents a good general appearance.

Convention Proceedings.

Report of the Michigan State Convention.

BY WM. G. VOORHEIS.

(Continued from page 203.)

BEE-PARALYSIS—SPRING DWINDLING.

Mr. Berg—What are the symptoms of bee-paralysis and what is the remedy? Can it be cured without changing the queen?

Mr. Root—There are different kinds of bee-paralysis, or it acts differently in different locations.

Mr. Berg—The bees look shiny, and seem to be shaking or trembling.

Mr. Root—In the South the disease is worse than in the North. When the queen is taken away they do better.

Mr. Kitson—I think my bees had that disease early in the spring.

Mr. Hilton—It is the result of inflammation.

Mr. Chapman—I have not been bothered with it in my apiary.

Mr. Root—The bees that are not affected will put the sick ones out of the hive.

Mr. Rankin—I have had no experience with this disease. I have tried to introduce it among bees, as an experiment, with queens and combs sent from the South, but did not succeed. I do not think that bee-paralysis will do much harm so far north.

Mr. Hutchinson—Nothing has been said about it for the last two years.

Mr. Kitson—I know what spring dwindling is; I lost one colony by it.

Mr. Kaufman—I lost a dozen colonies in that way. I cured them by changing them around, putting them in the place of healthy colonies.

Mr. Kirkpatrick—I do not think that the young bees have it; only the old ones are affected.

Mr. Root—When the bees begin to store new honey the disease disappears.

FOUL BROOD.

Mr. Hilton—I have a letter from C. A. Huff about getting a law past against foul brood.

George Jaquays—I got colonies with foul brood from East Jordan; it destroyed every colony I had but one.

Mr. Kirkpatrick—Four years ago in the spring I shipt 125 colonies of bees from Indiana. I also took 67 colonies from a bee-keeper in this State to keep on shares. These last had been wintered in pits; I took them home, and afterward found that 37 of them had foul brood. I went all over the neighborhood but found no foul brood anywhere except in my apiary, and I burned all colonies thus affected. The next year I bought more colonies, but found that they also had foul brood, and I destroyed them. I lost 220 colonies all together.

Mr. Rankin—I do not think it necessary to destroy the colonies by burning them. The disease can be cured, but we must be protected from the bee-keepers who are careless to regard it. I think a law should be past similar to the one in effect in Wisconsin. They have the disease under control in that State, and I think that when colonies are affected with foul brood and ordered destroyed by the foul-brood inspector, the bee-keeper should be compensated, as live stock is compensated for. We ought to have a State inspector. When I find a colony affected with foul brood I mark the hive with a capital "B," and put a ring around the letter. Foul-brood germs can endure a great amount of dry heat, but can not live thru a very high temperature of moist heat. My cure for the disease is as follows: Scrape the hives—burning the scrapings—then swab out the inside with kerosene. Set the brood-chambers one above another, then set fire to them, and when the blaze comes out of the top put on a cover to smother the fire. Next scald the hives, frames, etc., with a solution of corrosive sublimate— $\frac{1}{2}$ ounce of corrosive sublimate to one gallon of water, putting them all into a tank of this solution, and thoroly washing them in it. Carbolic acid can be used, if preferred. Care must be taken to see that no honey gets on the ground, as there is danger of other bees getting it. It is well to soak the hives, etc., about 30 minutes in this solution, and be sure to burn the brood. The combs can be melted

into wax, and if there should be any honey in the combs, it can be extracted, and heating it will destroy the germs.

A motion was made and carried that Mr. Rankin, Mr. Bingham, and Mr. Hilton, act as a committee before the Legislature, to get the foul-brood law past. The committee must have the help of the bee-keepers in this State, and each one was requested to write a letter to his or her representative or State senator, asking them to support the passage of this law.

LARGE YIELDS OF HONEY.

Mr. Root—I understand that Mrs. Jackson had an extraordinary yield of honey about two years, and I wish that she would tell us about it.

Mrs. Jackson—I had one colony that did not swarm which filled 10 supers of 24 sections each. The total yield from 18 colonies, spring count, was 2700 pounds and an increase of 19 colonies. There were no other bees near me. There was a heavy flow of honey all the season, and the bees were in the best of condition.

Mr. Kaufman—During a basswood flow I had a colony bring in as high as 22½ pounds of honey in one day.

Mr. Kirkpatrick—I used to keep bees in Ohio, but get heavier yields of honey here than I did there. Last year I got 93 pounds of raspberry honey per colony, and this year I got 104 pounds per colony. I always get ready for the raspberry flow.

Mr. Chapman—I always get a good honey-flow from raspberry bloom.

SECOND DAY—BUILDING UP COLONIES IN SPRING.

Mr. Berg—How shall we build up colonies in the spring?

Mr. Root—Tuck them up warm.

Mr. Berg—As I have studied it I must have chaff hives. I do not think that bees wintered in the cellar do as well as those wintered in chaff hives. Bees must be in warm quarters with lots of honey, and must have a queen not more than two years old. During warm spells in winter bees wintered in chaff-hives have a chance for a flight. They also begin to breed early in the spring.

Mr. Chapman—I have had experience with both single-walled and chaff-hives, and I always winter my bees in the cellar, and lose only about 1 percent. I requeen every year. I use the common Langstroth 8-frame hive, and put empty cases under the one filled with brood, using the queen-excluder when I commence to tier up. Last season my 4-story colonies averaged over 100 pounds per colony. I allow each colony to rear its own queen, but as some of these are queenless sometimes I keep some colonies for rearing queens. I have had some experience with spring work, and have not lost many colonies from chilled brood. My honey is from raspberry, clover and basswood. I kill all queens at the beginning of the basswood flow, as I want young bees for wintering.

Mr. Hilton—Mr. Chapman must be very familiar with his honey-flow.

Mr. Chapman—I put all my light colonies in a row, and see that they have honey enough to last them until the honey-flow commences. I have very little swarming, and produce only extracted honey.

Mr. Berg—I should prefer to have the bees strong before fruit-bloom.

Mr. Hilton—I could not follow Mr. Chapman's plan for comb honey. One must know his location and know how to work his colonies. Mr. Chapman has two seasons for brood-rearing—one early in the spring and one in the fall. Those reared in the fall are the ones to be put into winter quarters. Bees can not winter on unripe honey, and every bee-keeper must know his location in order to succeed. What method would do for one locality would not do for another.

Mr. Berg—I would like to ask if Mr. Chapman has good queens.

Mr. Chapman—I find I have better queens than I can buy.

Mr. Root—Mr. Chapman could not rear new races of bees in this way, nor those extra-long-tongued queens.

Mr. Chapman—My bees are all Italians.

Mr. Hutchinson—I see no difference between rearing your queens and swarming. By his method Mr. Chapman makes up any loss.

Mr. Chapman—I keep watch of the drones and have only selected ones with which to breed, and permit only two colonies to rear drones.

BUILDING UP WEAK COLONIES.

Question—How can a weak colony be built up in the fall?

Mr. Hilton—We can not build up a weak colony.

Mr. Berg—I unite a weak colony with one that has a good queen, and sometimes unite three in this way.

Mr. Kirkpatrick—All colonies should be strong when put into winter quarters.

Mrs. Jackson—Could a weak colony be kept thru the winter by feeding a cake of sugar?

Mr. Hilton—The matter of increase can be overdone. You must have the best conditions in order to get the best results. Colonies must be strong in the fall if you want them strong in the spring. Bees can be fed during the winter in the cellar, with sugar-syrup, but you must be careful not to burn it when making it, and the best sugar must be used.

FOUL BROOD—CROSS-FERTILIZATION OF FRUITS.

Mr. Hastings, the representative from this district, had been requested to attend this meeting, and he made his appearance at this time. Mr. Rankin explained to him the effect of foul brood, and what other States were doing to stamp out this contagious disease. Mr. Voorhies was called upon to explain what the effect would be on the fruit-growing interests of the State if the bees were destroyed by foul brood.

Mr. Voorhies—I am a pioneer in this part of the State. When I first came here there were no honey-bees, nor even bumble-bees, here, and we could not raise melons, pumpkins, nor squashes without hand fertilization. I do not think all the fruit-growers realize the importance of cross-fertilization. I am more interested in fruit growing than in bee-keeping. I keep a dozen or more colonies more for the purpose of cross-fertilization than for the profit I get from the bees in the way of honey-production. When the apple-orchards in this section first began to blossom, altho the trees blossomed well the fruit did not set as it should, and at that time we had a few bumble-bees in this locality, but no honey-bees. I am convinced from the experience I have had that the reason why we did not get more and better fruit was because the work of the honey-bee on the blossoms was lacking. Fruit-growers nowadays do not plant Bartlett pears or Baldwin apples in large blocks, put in alternate rows with other varieties, and this is for the purpose of cross-fertilization. But we can not always depend upon the wind to do this, as the wind does not always blow. There is nothing that I have found in my experience that effects cross-fertilization so perfectly as the honey-bee. In the growing of small fruits we have had the same experience. We plant pistillate, staminate, or perfect-flowering strawberry-plants, in alternate rows, for this very purpose. Cross-fertilization will give the best results, and if we want No. 1 or fancy fruits, we must have it. The blossoms of the small fruits do not usually keep open as long as the tree fruits do. The flowers of the trees may last several days, the much depends upon the weather, and the fertilization of these flowers may be a question of only a few hours. If one has bees near by to do this work he can be sure of having his trees well set to fruit. I do not see how I could well get along without the bees; one can not realize how important they are in this matter, unless he has had some experience.

Mr. Hastings—I will do what I can for the interest of my constituents while at Lansing. I have no doubt that the interest of fruit-growers as well as the interests of bee-keepers will be looked after. You have my best wishes for both of them.

It was moved and carried that the committee draft a bill similar to the one they have in Wisconsin, and present it to the Legislature.

It was also moved and carried that the next annual meeting be held at Petoskey, the time of the meeting to be decided by the executive committee.

The Association then proceeded to the election of officers for the ensuing year, which resulted as follows: President, George H. Hilton; vice-president, Elias Coveyou; secretary, Wm. G. Voorhies, South Frankfort, Mich.; treasurer, W. Z. Hutchinson.

Mr. Hutchinson then described queen-rearing as carried on by W. H. Pridgen, of North Carolina.

QUESTION-BOX.

Question—Does it pay to paint the bottom-boards?

Mr. Hilton—It pays to paint both sides of the bottom-boards.

Mr. Kitson—What kind of stands are best for hives?

Mr. Hilton—I would have 2x4 scantlings in clay, and have one inch ventilation.

Question—Which way should the hives face?

Mr. Hilton—I want my hives to face the east.

Mr. Hutchinson—I have tried all ways, and do not think it makes any difference.

Question—Should hives be shaded in summer?

Mr. Hilton—Hives do not need shade except in the hottest weather—in July and August. The shade-boards should project over the sides of the hives to shade it properly, and weights should be used to keep them from blowing off. Hives

should not be shaded in the spring, as the sun is best then to warm the hives.

Question—What size of hives is best?

Mr. Hilton—The majority prefer the 8-frame Langstroth. Comb honey can be produced with an 8-frame hive, but the 8 frames should be full of brood. To do this the honey at the side of the brood-chamber should be extracted, and the empty frames put into the center of the brood-chamber. It should contain no honey, whatever. When there is a honey-flow be sure that the outside frames are full of brood; if they should be full of white honey, this can be uncapt and placed in the center of the brood-chamber, when the bees will carry it up into the sections.

Mr. Berg—I have used both 8 and 10 frame hives, and find that I get more filled sections from the 10-frame. I have had the 10 frames full of brood. I use chaff hives, mostly.

Mr. Beecham—I am in favor of one-half story hives, so as to keep the different kinds of honey together.

Mr. Hutchinson—There is no loss in deep uncapping of honey in the frames, as the bees will make more wax that would otherwise be wasted.

Mr. Rankin—I have experimented with the refuse of wax-extractors, and would like to get some samples to determine the amount of wax wasted in the different ways of extracting.

Mr. Beecham—The use of an iron kettle makes the wax dark; galvanized iron makes the wax green.

Question—Which is the better foundation—heavy or light?

Mr. Rankin—I have used 9 sheets to the pound, and also 13 sheets to the pound. I like the thin foundation better.

Mr. Berg—I want a thick top-bar for extracting frames, so they won't sag.

Mr. Hilton—Have every frame waxed before putting in the foundation.

Mr. Coveyou explained the merits of his double-walled super, with the confined air.

On motion the meeting adjourned.

WM. C. VOORHIES, Sec.

Contributed Articles.

Instruments Used for Uncapping Honey.

BY FRIEDEMANN GREINER.

THE first new thing in the line of aparian implements coming to us in this new century will be an uncapping machine—at least so it is hinted at. And, indeed, if a machine can be constructed to accomplish the work of uncapping for the extractor satisfactorily and speedily, we will have made a great step in advance, and all extracted-honey men will be quick, I think, to avail themselves of the new invention. How great this step in advance is, will be apparent when I show the readers what the implements are like that have been used for the purpose in the past.

Nothing better seems to have been found by the American bee-keepers than the honey-knife. [Fig. 1.] Regard-



Fig. 1—Bingham Honey-Knife.

less of what the bee-keepers of other nationalities have used, and may be using, the knife is preferred by us in America. Numerous different instruments have been employed in the years gone by among the German bee-keepers. It would be difficult to state just how long the uncapping fork has been known, perhaps not less than 20 years. The long tines of the implement are pushed under the cappings and the latter are lifted off; sometimes they come off perfectly dry—no honey adhering. The work goes on rather slowly. I can do much more with the right kind of knife. The handle-part of the fork is usually made of metal. [See Fig. IV.]

To uncap honey for the bees I, like Dr. Miller and others, have used an uncapping-comb or harrow. This implement was originally devised by L. Huber, of Baden, Germany, in 1884, as shown in Figs. II and III. The tines

and teeth of the harrow are crookt at the ends and filed sharp; with them the cappings are sort of raked off, but can not be removed so perfectly but what a liberal portion of them will find their way into the honey and will have to be strained out or skinned off.

I have no doubt that Dr. Miller's uncapping-comb varies somewhat in its construction from this one as well as mine; but we do not use ours to uncap for the extractor.

Another very old uncapping instrument is the spiked uncapping-roller. It works easily and rapidly, and it suits me to a dot. Of course it only mashes or destroys the cap-

[Fig. V.], with suitable small pieces of wood riveted on to make the handle complete.

Another uncapping instrument I see described as the uncapping-plane; but neither the illustration nor description is sufficient to give a clear idea of it, and as I do not find it spoken of in the bee-periodicals I judge that it is not a complete success.

The bee-keeping world is now awaiting with anxiety the forthcoming of Arthur Miller's uncapping machine.

Ontario Co., N. Y.



Working According to Locality—Killing the Queens Each Summer.

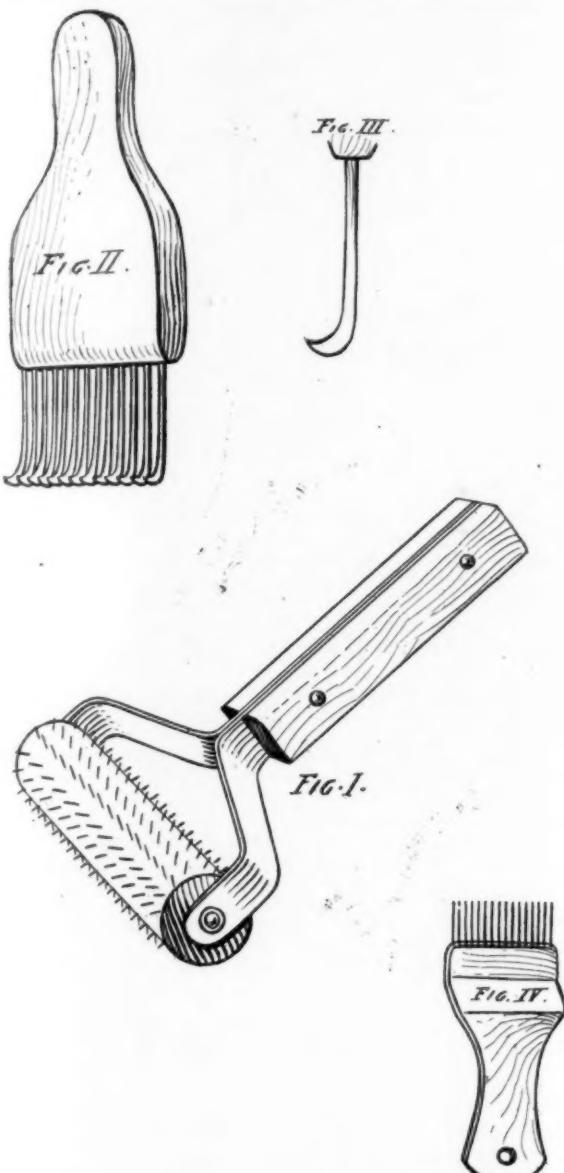
BY S. D. CHAPMAN.

SITUATED as we are, just half way between the equator and north pole, we have here in the northern part of the lower peninsula of Michigan long, cold winters, and usually it is late in the spring before we get warm weather. We have deep snow, yet the ground never freezes in the woods, and very little in the fields. The snow comes early in the fall, and it is nearly the last of April before it disappears in the forests. Several seasons my bees have gathered their first pollen from elm and soft-maple while there was yet a foot of old snow in the woods. A mile and a half east of me we are nearly on the hight of the land, and two miles west we are nearly on a level with the lakes. In the winter it is from seven to ten degrees colder on the higher land. Near the lakes we will find, usually, about one foot of snow; ten miles due east of there we will find four feet on the level. Raspberry and basswood come in bloom one week earlier on the low land. That part of the Grand Traverse region bordering on the lake and bays is not as frosty as southern Michigan or northern Indiana; but, just in my bee-range, we have early frosts, and the nights become cool early in the season. For this reason I believe in putting my bees in winter quarters quite early in the season—about October 15th. Years ago I found that my bees, if left on the summer-stands during our cold and frosty nights, would consume more honey from October 15th to the middle of November, than they would if put in the cellar October 15th and left till April 25th. I find from 8 to 9 pounds of honey will carry a colony of bees 190 days in my cellar. In the last 18 years, 180 days is the least time that my bees have been confined in the cellar—211 days the longest time.

At the present time I am using the ninth bee-cellars since starting with bees in this vicinity. I do not know as it is necessary for me to tell it, but I will say that in some of these cellars about all I had left in the spring was the cellar. The cellar that I now use is under my kitchen. It is 16x24, and there about 200 colonies in it. Some seasons there are a few more; in others, less. It is perfectly dry—so dry that you can not, at any time during the winter, find a drop of moisture the size of a pinhead on the under side of the cover that is right over the cluster of bees. I use no quilts nor cushions at any time of the year; and I prefer this kind of a cellar. I can not winter bees in a cold, damp cellar; but in a warm, damp cellar I have had them come thru seemingly in fair condition. They consume rather more honey, however, and they have not the vitality a colony has wintered in a warm and perfectly dry cellar. If I could hold the temperature of my cellar the latter part of spring to about 45 degrees, I have no reason to doubt that my bees would be in good condition, and not show a sign of disease at the end of eight months of confinement.

I use the eight-frame Langstroth hive. I have had some experience with very large hives, but in our cold climate we can not build up a colony in a large hive so that it can take advantage of the flow from raspberry. With us it is necessary that our bees are confined in just as small a space as possible, with plenty of stores, and just room enough for their present needs. This applies from the time of taking the bees out of the cellar, till the time sugar-maple and fruit-trees come into bloom. From the 5th to the 10th of May, we usually get our first honey from this source. In this vicinity there are a number of quite large bee-keepers, and every one of them has come to the eight-frame hive. We all work for extracted honey. With my method of management, the eight-frame hive is large enough for the need of any colony of bees I ever saw. And I know my colonies are as populous as it is possible to get with any style or size of hive.

I pay very little attention to my bees early in the



I. Spiked Uncapping Roller. II. Uncapping Comb or Harrow.
III. Single Tooth Harrow. IV. Uncapping Fork.

pings and does not remove them, so they find their way into the honey, even to a greater extent than was the case with the harrow when the tool is used to fit the combs for the extractor as some Germans do. In operating it they run it over the combs several times and in various directions. It would afford me little satisfaction to use the roller in this fashion, but when I have sealed combs I wish to have emptied by the bees, then the roller comes in play and has no equal. It has come to stay with me. I have made the roller part three inches long and about one inch in diameter; in rows lengthwise of the roller $\frac{1}{8}$ -inch wire nails are partly driven in, then the heads pinch off with nippers so as to have them protrude $\frac{1}{8}$ inch or a trifle more. This little roller is hung in a simple frame made of $\frac{1}{4}$ -inch hoop-iron as shown in the accompanying drawing

spring. As I take them from the cellar, any colonies that seem light in stores are put in a row by themselves, and fed; but I do not break the sealed covers on the others till near the time of fruit-bloom. I find that all the time spent in trying to build up very light colonies in the spring is thrown away. If they make a live of it they can be handled to advantage later in the season. With us, the time to build up our colonies so that they are strong in the spring, is during the month of August.

At the beginning of fruit-bloom I examine all of my colonies. From all that need more room, those that have brood in six or seven frames, and as many spaces well-filled with bees, I take one frame of brood from the brood-nest, selecting the one containing the oldest brood. I shake the bees off in front of the hive, and put a frame containing all worker-comb in the middle of the brood-nest in place of the frame of brood I have taken out. I now put on queen-excluding honey-boards, and leave them on till the close of the season. The reason I take this frame of brood from the brood-nest is that I find the queens will lay much faster in the middle of the brood-nest than they will in the outside combs. This being the case, right in the middle of the brood-nest is where we want our queens to do their work. We are after all the young bees we can get.

Now I will tell you why an eight-frame hive is far the best in building up colonies early in the spring. It is far better to have the brood in six or seven frames in the eight-frame hive than to have the same amount in four frames in a large hive.

The frame of brood that I remove, is put in an extracting-super directly over the brood-nest, and the super filled on each side with empty combs. The bees go right to work in this upper story. If the weather is warm, and a little honey is coming in, I can, in four or five days, take from this same colony another frame of brood. If it is a strong colony I take two. They are put in the extracting super beside the first comb of brood. I take out one or two combs, as I need, that were beside the first frame of brood put in the super, and as the bees have cleaned these combs and put a little new honey in them, they are just right to put in the brood-nest in place of the brood removed. The queen will occupy such combs right away. We must be a little careful not to take too much brood early in the season from the brood-nest, or we may discourage the queen. While our object is to stimulate the queen to lay to her fullest capacity, I sometimes think our best bee-keepers do not know just what a queen is able to do, provided the conditions of her colony are just right—and we keep them so for 30 days.

In a short time I take more brood from the brood-nest. This time I put it in another super and set it under the first, or over the brood-nest. At this time I destroy the queen-cells that have been started in the first upper story. The bees will not swarm if a dozen queens hatch in the upper stories, but when I extract I shake the bees from these upper stories in front of the hive, and, if there is a young queen with them she will crawl in the hive and destroy the old queen, and I lose the use of a laying queen for eight or ten days just at the time I need her most.

I follow this system of management just as long as the bees will be worth anything to me on the raspberry or basswood. We must recollect that there is a certain time during the life of a colony, each season, when we can build it up faster than at any other time during that season. I expect to find not less than 13, and in some of my best colonies as many as 25, frames containing brood and honey—there is more or less brood in all of them. I think my colonies are 40 percent better than they would have been if I had given the queen the two lower stories and let them build up without any of my assistance.

Two years ago I set apart five colonies that were better than the average of the yard, and I gave the queen of each the lower stories, and let them build up just as suited their notion; adding upper stories and extracting as they needed. With the remainder of the yard (77 colonies) I used my method of management. At the end of the season I had 1800 pounds of honey, extra, to my credit from the 77 colonies. This is about 23 pounds per colony; and I sold this honey at 6½ cents on board the cars. I tried this experiment in an out-yard, three miles from home. It took one-half day to go to this yard, put brood in the upper stories, destroy the queen-cells, and return home. I did this eight times, requiring four days of time, and I had this 1800 pounds of honey to pay me for my four days' labor. The showing in favor of the 77 colonies would have been much better if there had not been a number

that did not amount to much on the raspberry. This is not all; my bees never think of swarming. I am complete master of the situation, under any and all conditions. This alone is worth the four days' time.

During the last three years, raspberry has yielded about the same each season. My best colonies, those occupying four stories, have yielded, each season, from 160 pounds to 200 pounds per colony. My three-story hives during this same time have averaged 90 pounds each; my two-story hives from 20 to 40 pounds.

The wild red raspberry comes into bloom not far from the 5th of June, and it yields continually till near the 1st of August; tho it is on the decline after July 15th. The past season it came into bloom the second time, and my bees gathered fully five pounds per colony from the 1st to the 10th of October. This is nothing unusual, tho I do not recollect getting so much honey so late in the season from this source. After my bees were in the cellar there was bloom, green and ripe berries, up to November 1st.

Basswood comes in bloom about the 15th of July; but we have had little honey from this source the last four years. When basswood yields, it is not those extra-large colonies that wintered the best, that built up early in the season and gave us such large yields from the raspberry, that prove to be the best on the basswood. Far from it. Those large colonies built up rapidly in the spring, but it is impossible to keep our queens laying at their best except for a short time. Tho honey may be coming in every day, the bees are getting old, and those colonies are on the decline, while colonies that were lighter early in the spring have been building up, and by the time basswood comes into bloom they are liable to send out a larger working force of bees that are just the right age to take advantage of the yield from basswood; that is why our lighter colonies prove the best on the basswood. If we are to make a success of any colony we must bring it thru the winter in good condition; then we must thoroly understand our location; and a certain time before the honey harvest we must stimulate that colony to build up as rapidly as possible. Remember, the faster the colony builds up, the more vigorous are the bees; so that the colony is able to bring into action the largest possible force of bees that are just the right age to take advantage of the flow.

From about the 1st to the 10th of July I kill all of my queens. I have practiced this for 16 or 17 years. I would not go to this expense unless I thought I had some pretty good reasons for doing it, as it takes a day in each yard to hunt them up. Where queens are workt as I work them they never prove as good the second year. With my management the average life of the best of queens is not over two years. The first year of their lives, not one queen in a hundred is superseded. The second year, from 30 to 50 percent of them will be superseded in the fore part of the season, just at the time we want a good queen in every colony. This makes a big hole in my honey crop. At the time I kill my queens my colonies are in the very best condition. I am sure of just as good queens as we can get with the most favorable swarming conditions. After killing the queens, for about 25 days, no eggs are laid in the hives. Our colonies are not rearing a lot of bees that would be consumers for this length of time. As the brood hatches in the brood-nest the bees fill these combs with honey, leaving the colony in better condition for winter. One of my best reasons for killing the queens is that thereby each colony is furnisht with a good young queen to build them up for winter.

Experience and a careful study of this matter will show many more reasons why it is profitable to kill the queens each year in northern Michigan. As I said in the beginning of this article, the time to build up colonies so they are strong in the spring is during the month of August. I use the same method in the fall that I do in the spring, but not on so large a scale. Near the first of June I select from four to six of my best colonies, and in each colony I put two frames containing largely drone-comb, for the purpose of rearing drones. I do not intend to rear any drones except from these colonies, as I use only worker-comb in the brood-nests, and if a few drones are hatched they must nearly all hatch in the upper stories, where they soon worry themselves to death or are killed in trying to get thru the queen-excluder.

If I wish to run a colony or two for comb honey, 15 or 20 days before the end of the honey harvest I take one or two of these large colonies (they are twice as large as any colony that is run for comb honey from the beginning of the season) and remove the three extracting supers, and in their place I put three section-cases. They will fill three

about as soon as they will one. In 30 minutes these section-cases are filled with bees; and they go right to work. I can take more section honey, late as it is in the season, than I could if I had workt the colonies for section honey from the beginning of the honey harvest; and I have already taken 60 or 80 pounds of extracted honey before I put on the section-cases. They do the work so quickly that we get an extra, No. 1 quality of section honey.

I have told you that my bees do not swarm, and I think I can tell you why they do not swarm. The raising of the brood to the upper stories, distributing it in three or four places, there is no large body of brood in the brood-nest at any time; especially sealed brood. From the time I put up the first frame of brood they have been starting queen-cells in the upper stories, and every 10 or 12 days I destroyed them, but during all this time (four to six weeks) they have not attempted to start a queen-cell in the brood-nest where the queen is laying. Eleven years ago I used the same management as I do at present. That season I killed 140 queens, and over 80 of that number did not start a queen-cell in the brood-nest; and the brood was too old in the upper stories. I should have had over 80 queenless colonies had I not discovered it just in time to take cells from those colonies that were rearing queens.

I mention this case to show the conditions into which we can bring our colonies; and how slow they are sometimes even to recognize the loss of their queens.

I think these are the reasons why my bees do not swarm up to the time that the young queens hatch; and I think this management has something to do in keeping them from swarming at the time the queens hatch. My bees do not get the swarming-fever. When the young queens hatch, the conditions in the hive are changed; I have put no brood in the upper stories for a week or more previous to killing the queens. If there is a colony in the yard that has the swarming-fever at the time I killed the old queen, that one will swarm from the 11th to the 13th day, even tho I destroyed every sign of a cell at the time I killed the queen, while the others do not hatch a queen till the 14th or the 16th day from the time of destroying the queens.

At the time the queens hatch there is no brood in the upper stories, and I extract the honey closely, so, at this time, there is plenty of room. This is the reason they do not swarm at the time the queens hatch.

I have run my out-yard of 90 colonies the whole season, killed all the queens, and have had but one swarm; and that swarmed at the beginning of fruit-bloom before I had put on any upper stories. The swarming-fever is a spontaneous impulse, and we can so change the conditions of a colony that it is liable to contract the desire to swarm in 15 minutes. Supposing, at the time the young queens hatch, each colony has a young queen, and most of them have destroyed the queen-cells, now remove all the upper stories, confining these large colonies to the brood-nest, and I should expect every one of them to swarm. I would have my hands full for a day or two. With these conditions I have known a colony to swarm in 30 minutes after we had brush't the bees carefully from the combs. If we shake the bees from the combs we cover them with honey, and have spoiled the experiment.

Just before the queens hatch I make my increase by division; and it is not at the expense of my honey crop. In union there is strength. I have kept the bees in each colony together till near the end of the honey harvest.

Many of our best writers have frequently told us always to keep our colonies strong. I hardly think this is good advice for our locality. Years ago I would have given a good deal if they had gone a little farther and told us just how they managed to build up their colonies so they were strong. And now, just for the fun of it, I would like to know, when their colonies are strong how they always keep them so.

It is necessary that every bee-keeper should understand his own locality, and what is best adapted to the requirements of his location.

I have not written this as a pattern for bee-keepers in New York, or California, or any other State, but simply at the request of a few bee-keepers living in northern Michigan, who wish to try my method of management.—Bee-Keepers' Review.

Antrim Co., Mich.



The American Fruit and Vegetable Journal is just what its name indicates. Tells all about growing fruits and vegetables. It is a fine monthly, at 50 cents a year. We can mail you a free sample copy of it, if you ask for it. We club it with the American Bee Journal—both for \$1.10.

* The Afterthought. *

The "Old Reliable" seen thru New and Unreliable Glasses.
By E. E. HASTY, Sta. B Rural, Toledo, O.

A REVIEW OF "THE HOME CIRCLE."

And so it's a "Home Circle" our journal is to have. A poor one would be just so much space wasted. A good one, without much doubt, would decidedly help the paper to prosper. I can't say I exactly like that quavering editorial half-promise to steal all the space needed from the advertisements. Sounds as if the editor hadn't the "sand" to edit his own paper. (He has, tho.) Other things being equal, the bee-paper that makes itself of interest to the whole family will distance the one that only interests one individual. In the good old times, when to meet a bee-keeper was to meet a man consumed with a raging "bee-fever," the above dictum may not have been true, but you know we have to live in present times. The species of mosquito whose bites inoculate bee-fever has become nearly extinct. As for the old patients, they are mostly "pretty well, thank you," at 97% degrees Fah. And, don't you know, the prosperous paper (besides its side-issues) will have more acres in bee-reading, and more fertile acres, too, than the unprosperous one can possibly sport. However correct you may think his principles to be, the editor who allows his paper to "spring-dwindle" will make you but little return for your dollar. Cause why? *He can't.* It hardly needs saying that Prof. Cook is a man who has right ideas—progress ideas—about what home ought to be.

From the concentrated wisdom of the seventeen Maxims I will quote just two words: "Avoid moods." Moods all right in grammar; and I think I'll advocate "high license" instead of "prohibition" for moods in folks. Don't believe I exactly want a friend whose whole life is one even thing, unvaried by a single change of mind. Constant, even-toned sounding of one note is hardly the thing—even if the note is "soul." And we'd greatly want to change off upon another mood, that fellow whose forever note is "Me," with a big M. License of \$10,000 for the Me-Indicative mood. Also the contemptuous Poh!—tential mood, and the too-imperative. Imperative mood should be mulcted well for the public treasury. But the main idea of the maxim is right. Down on the home-circelist who won't give a civil answer to a civil question, and hides behind an excuse. Perchance this is an excuse: "I have an angelic mood which I wear much of the time—so you must remember that I average well—just for now this is my nearly-innocent and not-very-big Polar-Bear mood." That individual should be compelled, somehow, to see self as others see. Pages 163, 170, 171.

IMPORTANT POINT IN SPRAYING TREES.

One thing in Mr. E. R. Root's excellent paper on spraying trees in bloom is less familiar to the mind of the bee-public than the rest of the points made. The poison is charged with damaging the pollen. Grains will not develop when moistened with the solution, or even with a half-strength solution. Surely it looks hardly wise for the orchardist to depend for pollen on the flowers he fails to hit. Page 120.

BUYING SUPPLIES WITHOUT A GUARANTY.

When it gets to the point that retailers generally are not willing to buy supplies without a guaranty as to what things are really made of, then indeed a pure-food and pure-honey morning does begin to streak the east—or is it the west in this case that gets streaked first, and needs it most? We don't feel very malignant toward any one, but we trust the swindlers also feel a little streaked. Page 121.

WORMS ON TREES AND IN HIVES.

And now comes a man who apparently thinks the worms (so-called) he finds in his apples, and the familiar ones of the bee-hive, are the same thing. And he *discovers* (in certain frame of soul how we do discover things!) he discovers that each color of apple has a similarly-tinted worm—and ditto of the bee-hive that doth stand beneath that tree. Mr. Tesla would better be looking a little out for his laurels. But while we are contemplating this good friend we would better be seeing ourselves a little also, and *our* inventions and discoveries. I once discovered the source of the power which makes the earth revolve on its axis—and came near trying to publish it to the world. I made a machine that would generate axis

rotation beautifully, and I thought I knew why. I didn't, tho. Page 126.

THE WISCONSIN BEE-MULCT.

That proposed legislative mulct of \$400 for moving an apiary is of interest as showing the crudity of some people's ideas of bees. Evidently think the bee-man is getting a fortune too fast, and that he ought to be made to "shell out" some of it. Page 131.

"AFEARED" OF A HONEY-TRUST.

And so, Mr. Aikin, a convention will wrestle, and wrangle, and suggest, and advise, and demand—and then suggest and advise the opposite thing—and then appoint a committee to sell the honey crop of a State—and provide for the greasing of the wheels—not one dollar! Still Mr. A. has hopes. I, too, have—what would be hopes in a different person—I'm "afeared" that the honey-trust will some time be an accomplished fact. Page 132.

ORTHODOX AND UNORTHODOX GOLDEN BEES.

According to Mr. Doolittle's interesting history of the five-banders there seems to be in the land both an orthodox and an unorthodox golden bee. Latter a mongrel worthy of all sorts of perdition—but doubtless handy to bear away the sins of both kinds. Still, whether you mongrelize, or whether you eschew mongrelization, this critic for one doesn't believe you can breed golden color to the front without at the same time breeding to the front the ancestral qualities of certain ancestral bees. Wonder which kind it was that a friend of mine presented me. They were beauties, indeed; and they also seemed good-mannered, and exceptionally enterprising; but they didn't begin to get thru the first winter alive. Page 134.

BEE-PARALYSIS AND QUEENS.

The article of O. O. Poppleton, on page 134, should not be lightly past by, even if it is a sort of insoluble puzzle. It looks a little as if the virus of paralysis has spread invisibly pretty much everywhere, but developing to do serious mischief only in favorable climates showing mainly in the inferiority and short-livedness of queens. And how about the resident Florida bees? Are they free from it (by the extinction of all not free), or are they immune to the virus which they carry as well as the rest?

SHELTER AND SHADE FOR BEES.

That nid-nod, rod-long umbrella of Mr. Wagner's, to shelter and shade his bees, it has obvious good points; and it is moreover somewhat of a novelty, in these last days when novelties are scarce. We tip our hats to it just at the angle shown in Fig 2. Possibly some might say that the arrangement as a whole has obvious disadvantages also. Page 135.

UMBRELLAS BY MAIL.

Umbrellas by mail, eh? If Uncle Sam should adopt the notion would any lost umbrellas, we wonder, imitate the "vilest sinner" and return? Still viler than the vilest sinner most of 'em, we fear. Possibly, our French and Swiss brethren, you have carried postal reform an inch or two too far already; but what say to an apiary by mail at 15 cents per hive? Then migratory honey-grabbing might get up-to-date. And the exhaustion of the subject he complains of seems to improve C. P. Dadant, page 135. Would almost like to see what kind of brick he would make when deprived of both straw and clay.

HOT AND COOL SUGAR-HONEY TALK.

Prof. Cook's hot words about sugar-honey on page 149—possibly it might be well to say some words in addition which are a little cooler. Whether sugar syrup manipulated by bees is "honey" or not, is, to a certain extent a matter of definition of words, and of opinion. Now people may be atrociously wrong in their definitions and opinions without entirely falling into untruth. World is full of just such people; and let us try to be patient with them. Again, some of those whose—not quite falsehoods—we deplore may never have tasted the real article, stored when bees were in the active condition. Wake the bees up after they have ceast work for the season, and make them carry down in haste some syrup, and occasional samples of this kind of work may possibly taste more like syrup than they do like honey. But the real article, if I am right, not only has a honey-like taste in a general way, but it has a decided special taste, not at all suggestive of sugar, that would almost deceive the very elect into calling it the flavor of some particular kind of flower. Exactly that happened to Mr. Heddon on a certain rather public occasion. Again (to resume) our senses of smell and taste, rather more

than the other senses, are often be-trickt, especially if our minds are excited. For instance, I abominate tomatoes. Once my mother gave me a piece of very sweet pie. It tasted good. Later on I found out it was made of preserved tomatoes—and then it tasted bad—couldn't eat such stuff to save me, then. It is related that some express clerks somewhere out West buried a box of pumps, that chanced to be shaped like a coffin, because the corpse inside smelt so bad. It was not falsehood that ailed these clerks, but just the fallibility of the poor human critter.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

(The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.)

Brood Diseases.

A subscriber sends me a sample of brood that may be affected by foul brood or something closely allied to it. In matters of so much importance it is wise to take no chances and to waste no time; so I advise any one who has reason to think that anything like foul brood, pickled brood, or black brood, is present in any of his colonies, to send a sample with the regular fee of \$2.00 to Dr. Wm. R. Howard, Fort Worth, Tex., so that it may be analyzed, and then the sender will know positively what is the trouble, and what is to be done with it. I know of no one in this line more competent than Dr. Howard, and bee-keepers owe him a debt of gratitude for his investigations.

C. C. MILLER.

Transferring and Dividing Colonies.

1. My bee-book tells how to transfer colonies, but if I do it by the Heddon plan, what is to hinder the parent colony from being robbed during the 21 days, if near the apiary?

2. Why could I not drum them into the new hive at once that has old combs, having it tight around the bottom, not using the forcing-box?

3. If I make swarms by dividing according to the textbooks, will the queenless part rear a queen if there are no queen-cells at the time of dividing? Why wouldn't they be worthless, like many other queenless colonies?

4. Would colonies made by dividing, be likely to produce as much surplus honey as if left to swarm naturally?

MASSACHUSETTS.

ANSWERS—1. The supposition is that the bees will defend themselves against robber-bees, but it will be well to help them by contracting the entrance somewhat.

2. That certainly will be better, if the hives are such as to allow it.

3. Set it down as a fixt fact that if you want good queens they must be in strong colonies and in favorable circumstances at least till sealed. That settles the question that the queenless part must not be allowed to rear a queen from the start unless strong and gathering.

4. Just as much, if of the same strength and having the same advantages.

Spring Requeening—Introducing Method.

If you were to requeen an apiary in the spring with young queens from the South, what method of introduction would you practice?

IOWA.

ANSWER—This matter of queen-introduction is such a constantly changing and elusive thing that it is hard to tell a month ahead what one would do. Just as it happens to look at this minute, I suppose I should take the regulation way of introducing in the cages that brought them. If I didn't follow that exactly, it would be to do something that had before proved successful in my hands, without much reference to what had succeeded with others. Explain it as we may, there's something about the matter that allows A to be successful in one way and B in another, while both

might fail if they should swap plans. If time was plenty, and it was decided to take extra precaution, this might be done: At the time of day when bees were busy flying, remove the old queen and set the hive in a new place, after first taking from it a frame of brood and bees to put in another hive on the old stand; put the new queen in the removed hive and perhaps two days later return to the old place, giving it back its frame of brood.

Now it's none of my business, but if you're requeening with young queens to avoid swarming, I'll volunteer the remark that in this locality it doesn't do to make the change too early.

Transferring—Controlling Swarming.

I got a start in bees last summer. Can I transfer or increase, and incidentally control swarming, by placing Langstroth hives with starters under or over box-hives? or does the "A B C of Bee-Culture" (which I have) cover the whole ground? If so, I shall have to follow instructions therein.

INDIANA.

ANSWER.—If you put a box-hive over a frame-hive having its frames filled with foundation, and allow the bees to work down and fill the lower hive, you will probably have, if you wait long enough, all the brood in the lower story, and consequently the colony transferred, and you may confidently count on no swarming. With a little more trouble you can have a surer and quicker way. Put on the stand of the box-hive a movable-frame hive filled with foundation, and put over it a queen-excluder. Drum the bees out of the box-hive until you think you have the queen, and run them

into the frame-hive. Set the box-hive over the excluder, and close up any opening over the frame-hive or under the box-hive. A week later look to see if you have eggs below, and if not drum again. Three weeks after the queen is drummed out all the brood will be below (unless it be a small amount of worthless drone-brood), and the box-hive may be disposed of. No danger of swarming. It will be a help in either case if you can get a frame of brood from another colony and put it in the frame-hive at the first.

Stimulative Brood-Rearing in the Spring.

When should I begin, and how much should I feed, to stimulate brood-rearing in the spring? The colonies are pretty weak.

ILLINOIS.

ANSWER.—Unless you are somewhat experienced, and unless you are very careful, you will do well to let stimulative feeding alone. It may do good and it may do harm. If you feed so as to start the bees to flying out when it is so cold that they will be chilled and lost, it will be a losing speculation. If the bees are started out flying, and then it suddenly turns cloudy when the temperature is not very high, the bees may never return to their hives. It may be a safer thing, and perhaps just as well in the long run, if you see that the bees have abundance of stores, and have all cracks about the hive closed, and then leave them to themselves. But if you think it best to try stimulative feeding, begin when the bees fly out every day at least a little, feeding every evening, or every alternate evening, a half pound of sugar with an equal or greater quantity of water.

It Stands to Reason

That There Is Money Saved in Buying Direct from the Manufacturer.

The profits between the manufacturer and consumer are large. **We Save You These Profits.** We are the largest manufacturers of Vehicles and Harness in the world selling to the consumer exclusively. For 28 years we have conducted business on this plan. We guarantee to give you much better quality for the same money, or the same quality for less money than the dealer, jobber or supply agent.

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Elkhart Carriage and Harness Manfg. Co.
W. B. PRATT, Sec'y.
ELKHART, INDIANA.

No. 217 Flat-Bottom
chairs \$15.00. As fine as our price. We make 33 styles Surveys and Trap. Price with pole or shafts \$15.00. As fine as our price.

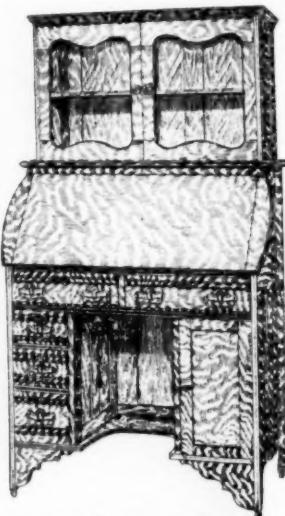
No. 212 Canopy-Top Trap.
As fine in every way as our price. Price with pole or shafts \$50.00 more than our price.

No. 393lesser Quadrant
Price \$15.00. As fine as our price. Price with pole or shafts \$15.00. As fine as our price.

No. 47 1-2 Single Strap Harness
nickel or imitation rubber trimmings. Price \$9.50. As fine as our price. Price with pole or shafts \$13.00 to \$15.00.

Please mention Bee Journal when writing

DESKS FOR GENTLEMEN AND LADIES!



Combined Desk and Book-Case
Size, 66-in. high, 36 in. wide,
19 in. deep.
Price, \$13.75.

THESE DESKS are made of quarter-sawed oak, first-class finish, well put together, and will please every purchaser. They are an ornament to any home, as well as being a useful necessity. Would make a FINE GIFT for father, mother or sister.

The Combination Desk X X and Book-Case

is just the thing for a farmer or business man of any kind, to keep his private papers in, and for his books, etc. The drawers have locks, and there are a number of pigeon-holes inside each of the desks shown herewith.

The low prices quoted are f.o.b. Chicago. Send for free catalog. Address,

The Royal Star Combination Game-Board Co.,

773 to 779 Carroll Ave., CHICAGO, ILL.

[The above firm is entirely reliable.—EDITOR.]

Please mention the Bee Journal



Ladies' Desk.
Size, 40 in. high, 25 in. wide, 15%
in. deep.
Price, \$2.85.

A WHOLE CARDEN For 14c.

We wish to gain this 220,000 new customers, and hence offer
1 Pkg. Salzer's Blue Blood Tomato... 15c
1 " Northern Lemon..... 10c
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1 " 13 Day Radish..... 10c
1 " LaCrosse Market Lettuce..... 10c
1 " Elegant Flower Seeds..... 10c
Worth \$1.00 for 14 cents.

We will mail you this entire \$1.00's worth of splendid seed novelties free, together with our large illustrated Plant and Seed Catalogue on receipt of this notice and 14c in postage.

Choctaw Onion Seed 60c lb and up.
Potatoes at \$1.20 per barrel and up.
Catalogue alone, 5 cents.

JOHN A. SALZER SEED CO., LaCrosse, Wis.

Wanted! A trustworthy boy or young man to assist in apiary work, to learn practical bee-keeping, and earn good wages. 100 colonies of bees for sale. C. THEILMANN, Theilmanton, Wabasha Co., Minn.

14Atf Mention the American Bee Journal.

THERE IS NO INCUBATOR

which has been more successful than the **SUCCESSFUL**. You hear about them everywhere. The reason is that they do their work so well. Send 6c in stamps for new 154 p. book, printed in 5 languages, describing our **Successful Incubators and Brooders**. They deserve their name. Des Moines Incubator Co., Box 78, Des Moines, Iowa.

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SENT ON 30 DAYS TRIAL \$5
The Bantam hatches every hatchable egg. 50-egg size, \$5. Send 4c for Cat. No. 83.
Buckeye Incubator Co., Springfield, O.

SEED DUE BILL FREE

To get new customers to test my Seeds, I will mail my 1901 catalog, filled with more Bargains than ever and a 10c Due Bill good for 10c worth of Seeds for trial absolutely free. All the Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes and many Novelties at lowest prices. Ginseng, the great money making plant. Giant Prize Tomatoes, 2 to the foot. Pan American Oats, mutton fat to farmers, and two Free Passes to Pan American Exposition, Buffalo, N. Y. are offered. \$2,635.00 in cash premiums. Don't give your order until you see this new catalogue. You'll be Surprised at my bargain offers. Send postpaid for catalogues to-day. It is FREE to all. Tell your friends to send too. F. H. MILLS, Box 88, Rochester, Oneida Co., N. Y.

GENERAL ITEMS

Good Yields of Honey—Foul Brood.

I have been in the bee-business about 10 years, commencing with one colony. I aim to keep between 50 and 60 colonies all the time now. In 1899 I secured 6,000 pounds of extracted honey, and last season I secured 4,000 pounds. I sell it all at Boulder and the mining towns in this vicinity, getting from 8 to 10 cents per pound for it. I put it in two-pound Mason jars, and also in tin cans, and have a ready sale for it. Our honey is mostly gathered from alfalfa bloom.

Foul brood got into my apiary last season, and as I had never had any experience with the disease, I lost the use of a good many colonies by transferring them too late, but I saved the most of the bees, and what honey I got was fine.

F. W. BADER.

Boulder Co., Colo., March 18.

Bees Wintered All Right.

My bees are now at work on peach, plum, mustard and turnip blooms, and have come thru the winter all right, and with no loss. I had bees swarm last April, and I believe they will swarm again this year in April.

R. P. DAVIES, M. D.

Lamar Co., Tex., March 23.

National Bee-Keepers' Association.

The report of the Chicago convention was particularly valuable and interesting. I believe it should be issued in pamphlet form, thus making the fund of information contained therein easily accessible. I am more impressed with the value of the National Association and its possibilities in the interest of bee-keepers every time I think of it. With united action and support of the fraternity it seems to me that the Association could be made the distributing agent for the product, and the manufacturer and distributor of supplies as well—a bee-keepers' trust, and why not? With concentration in production and

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

250 Poultry Pictures

Illustrating every phase of poultry raising and 224 pages of master telling how, when and what. That and much more is in our "Prestigious Poultry Keeping in all its Branches." Tells also about the warranted for 10 years Cyphers Incubator, which is guaranteed to hatch any other incubator, or money refunded. Book for 10c in stamps. Circulars free. Address nearest office. Ask for book 50 CYPHERS INCUBATOR CO., Chicago, Ill., Wayland, N. Y., Boston, Mass.

Wanted To Exchange!

100 COLONIES OF BEES on 8 Langstroth frames each, valued at \$3.00 each, for beeswax or bee-keepers' supplies.

14Alt H. VOGELER, New Castle, Calif.

ELECTRIC HANDY WAGONS
excel in quality, strength, durability. Carry 4000 lbs. They are low priced but not cheap. Electric Steel Wheels—straight or staggered or spokes. Any height, any width of tire to fit any wagon. Catalogue FREE. ELECTRIC WHEEL CO., Box 16, Quincy, Ill.

BEE-SUPPLIES!

ROOT'S GOODS **AT ROOT'S PRICES**

Everything used by bee-keepers.
POUDER'S HONEY-JARS. Prompt service. Low Freight Rates. NEW CATALOG FREE.

WALTER S. POUDER,
512 MASS. AVE., INDIANAPOLIS, IND.

Removed—Queens

I wish to inform my many kind friends and customers that I have moved from Merigold, Miss., to Coal Creek, Tenn., where I am making a SPECIALTY OF REARING QUEENS that produce the very prettiest and best workers that work on red clover.

Untested, each..... \$.75
Tested, " 1.00
Breeders, "85
Select Untested, each

Give them a trial and be convinced. Thanks for past favors. Respectfully yours,

DANIEL WURTH,
Coal Creek, Anderson Co., Tenn.

14Atf

distribution, the expenses of both would be minimized, and the large slice now taken by the supply trust before, and the commission trust after, the crop is secured, would largely revert to the producer.

That this is not all guesswork I am convinced from late experience. In 1900 I asked for prices from a firm that advertised "Root's goods at Root's prices," on 1,000 brood-frames, sending them sample. They quoted \$21; I got the frames made for \$12.50. This is no reflection on the firm, as the prices of other supply dealers vary but little from the above. The margin saved in this transaction shows what may be done if we wake up and do it.

My 70 colonies are all alive and well, but have had no chance for a general flight since last November.

W.M. WRAY.
Gratiot Co., Mich., March 6.

Outdoor-Wintered Bees.

I am afraid that some of our outdoor-wintered bees have been confined too long for their own good. Bees in the cellar never were quieter at this time of the year.

FRIEDEMANN GREINER.

Ontario Co., N.Y., March 18.

Bees Did Fairly Well.

My bees did fairly well last season. I secured 2,600 pounds of comb honey from 37 colonies, which I sold for \$280.10.

W.G. LINDZEA.

Boulder Co., Colo., March 19.

Bees Wintered Splendidly—Prospects Bright.

My bees have wintered in fine condition, 90 colonies having come thru without a single loss. I hear some of my neighbors complaining of losses, but I attribute it to negligence on their part.

We have had an unusual amount of snow this winter, which insures plenty of water for irrigating purposes, hence a large crop of alfalfa, and the bee-keepers are expecting large returns—disappointments not included.

The weekly contents of the "Old Reliable" are as eagerly awaited as of yore.

JOHN W. LYELL.

Washoe Co., Nev., March 18.

Bees Wintering All Right—Bee-Literature.

We are having a fine winter, and bees seem to be wintering all right so far. They gathered the first pollen on Feb. 17th, and again on March 2d and 3d, but the weather has turned cold again, and they have stopped work.

I am employed in a store here, and see a great many people, and have the opportunity

Bee-Keepers' Supplies.

Just received a consignment of the finest up-to-date HIVES and SECTIONS we've had. They are 2d to none. Complete line of Bee-Keepers' Supplies on hand. Bees and Queens. Catalog free.

THE A. I. ROOT CO.,
H. G. ACKLIN, Manager,
1024 Miss. Street, St. Paul, Minn.
14Atf Please mention the Bee Journal.

HOME-SEEKERS' EXCURSIONS.

On the first and third Tuesdays of each month the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets from Chicago, Milwaukee and other points on its line to a great many points in South Dakota, North Dakota, and other Western and Northwestern States at about one fare. Take a trip West and see the wonderful crops and what an amount of good land can't be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained by addressing F. A. Miller, General Passenger Agent, Chicago, Ill.



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THE FINEST IN THE WORLD.

Our New 1901 Fifty-Two Page Catalog Ready.

Send for a copy. It is free.

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WATERTOWN, WISCONSIN, U. S. A.



THE WHOLE WORLD ADMIRES Split Hickory Vehicles.

and the best of it is, the closer you examine them, the better you like them. They are built right all the way through and they have a hundred special features—"little things" that add to their comfort, safety and durability found on no other. We sell

DIRECT FROM THE FACTORY
You save all agent's profits. We ship on approval. You don't keep it unless you think it a bargain. Send for our Vehicle and Harness catalogue. It will save you money.
OHIO CARRIAGE MANUFACTURING CO.,
6 W. Broad Street, Columbus, Ohio.

Please mention Bee Journal when writing.



LIKE A SORE THUMB.

Our low prices and our Ten Days Trial plan are "forever in the way" of the local dealer. He doesn't like us—naturally—because we let our customers take a vehicle and use it 10 days before deciding whether they will keep it or not, and because we sell you better goods for less money than he possibly can. There are two or three profits on the goods he sells—the dealer's, the jobber's, the manufacturer's. We make our own goods and add but one small profit. In style, finish and material you won't find the equal of our vehicles for the money anywhere.

Send for big, free catalogue and particulars of our 10 days trial plan. We make harness too.

KALAMAZOO CARRIAGE AND HARNESS CO., Box 53, Kalamazoo, Mich.



Please mention Bee Journal when writing.



At the Paris Exposition

where, as usual, our exhibit attracted more attention than almost anything else, we thought we were among strangers. So we were, but we were simply surprised at the large number of people from all over Europe who called on us and said they were using Reliable Incubators and Brooders. All were satisfied and congratulatory and it made us feel quite at home. There is but one explanation—merit, merit, merit. Our 20th Century Poultry Book makes it all plain. Sent for us as long as they last.



Reliable Incubator & Brooder Co., Box 8-2, Quincy, Ill.

Please mention Bee Journal when writing.

Belgian Hares CHEAP.

PEDIGREE AND COMMON STOCK.

Having bought a Job Lot of a neighbor and added to what I had, I must dispose of same to make room for my increase. They are mostly young—3 months and over—with a few bred Does. ALSO

Italian Queens

of last season's rearing, ready as soon as the weather is warm enough to send thru the mail. Write for prices. Address,

J. L. STRONG,
Clarinda, Page Co., Iowa.
Please mention Bee Journal when writing.

Harry N. Hammond Seed Co.—We are very glad to call the attention of our readers to the Harry N. Hammond Seed Co., of Bay City, Mich., who have been advertising in these columns for some time past. Very many of our readers will remember when Harry N. Hammond started growing and selling seeds in a comparatively small way at Fifield, Mich. At this point the business grew to large proportions when an almost overwhelming calamity befell their business in the shape of fire about a year ago, which destroyed their warehouses. This blow would probably have crushed out the ambition of most business men, but with commendable pluck and enterprise Mr. Hammond decided to re-establish his business on an even broader and more substantial basis than ever. Realizing that it would be an advantage to have his warehouses and shipping business in a larger city, he incorporated his company and located at Bay City, where large and commodious buildings were erected for his use. These people issue a very complete catalog which we will be glad to have our readers write for if they have not already done so. In writing please mention the American Bee Journal.

Marshfield Manufacturing Company.

Our Specialty is making SECTIONS, and they are the best in the market. Wisconsin BASSWOOD is the right kind for them. We have a full line of BEE-SUPPLIES. Write for free illustrated catalog and price-list.

Marshfield Manufacturing Co., Marshfield, Wis.
Please mention Bee Journal when writing.

8A26t

April 4, 1901.

QUEENS!

Improved Golden and Leather-colored Italians are what H. G. QUIRIN rears.

We have one of Root's best long-tongued Red-Clover Breeders from their \$200 queen, and a Golden Breeder from Doolittle, who says if there is a BREEDER of golden bees in the U.S. worth \$100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season.

J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over 400 pounds of honey (mostly comb); he states that he is certain that our bees work on Red Clover, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.

Warranted stock, \$1.00 each; six for \$ 5.00
Tested queens, \$1.50 each; six for 8.00
Selected tested, \$2.00 each; six for 10.00

We have 100,000 Folding Cartons on hand, and so long as they last we will sell at \$4.00 per 1,000, with your address printed on in two colors; 500, for \$2.75. At above price you can not afford to place comb honey on the market without cartoning it. Address all orders to

H. G. QUIRIN, Parkertown, Ohio.
(Parkertown is a Money-Order Office.)

By contract this ad. will appear twice per month only.

14E13t

Lone Star
QUEENS.
Breeder of
FINE
ITALIAN QUEENS
G. F. Davidson
& Sons,
Establish 1885. FAIRVIEW, Wilson Co., TEX.
12A2t Please mention the Bee Journal.

**Lone Star
QUEENS.**
Breeder of
FINE
ITALIAN QUEENS
G. F. Davidson
& Sons,

Bee-Supplies

We are distributors for ROOT'S GOODS AT THEIR PRICES for southern Ohio, Indiana, Illinois, West Virginia, Kentucky, and the South.

**MUTH'S SQUARE GLASS HONEY-JARS,
LANGSTROTH BEE-HIVES, ETC.**

Lowest Freight Rates in the country.
Send for Catalog.

C. H. W. WEBER,
Successor to C. F. MUTH & Son,
2146-48 Central Ave., CINCINNATI, O.

ALBINO QUEENS If you want the most prolific Queens—if you want the gentlest Bees—if you want the best honey-gatherers you ever saw—try my Albino, Untested Queens in April, \$1.00; Tested, \$1.50. 11A2t **J. D. GIVENS, LISBON, TEX.**

Dittmer's Foundation!

Retail—Wholesale—Jobbing.

I use a PROCESS that produces EVERY ESSENTIAL necessary to make it the BEST and MOST desirable in all respects. My PROCESS and AUTOMATIC MACHINES are my own inventions, which enable me to SELL FOUNDATION and

Work Wax Into Foundation For Cash

at prices that are the lowest. Catalog giving

Full Line of Supplies,

with prices and samples, free on application.
BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.

Please mention Bee Journal when writing.

to talk to a number of bee-keepers, and I always speak a good word for the "Old Reliable," but it seems to be hard to induce some of them to take a good bee-paper, and thereby inform themselves along the line of bee-culture. I have taken the American Bee Journal for about nine years, and I don't see how I could keep bees without it.

A. J. FREEMAN.
Neosho Co., Kans., March 5.

Rendering Beeswax.

With reference to the color of wax I would like to say a few words in regard to my experience with the wax that I have melted during the past five or six years. It is true that there are two kinds of wax, and that both may be produced in the same apiary, but I believe the foreign particles have a good deal to do with the color of wax, just as they would have with hot water or hot lard, giving them a dull, dirty appearance that no amount of slow cooling will brighten. The secret of bright wax does not lie in the slow cooling, but in the melting, which should be very slow. I extract the wax in a solar extractor, then put it in an earthen pot, and set the pot in a dish-pan full of cold water, setting it on the stove and allowing it to come to a point where the wax begins to melt. Then I push it back and let it melt as slowly as it will, and that is about 20 pounds a day. As fast as it melts I dip it off and put it into molds, which I have sitting in hot water. This allows slow cooling so that the dirt may settle. I sell it in small cakes weighing about two ounces each for 7 cents a cake.

My bees are wintering well.

ROBERT J. CARY.
Fairfield Co., Conn., Feb. 25.

Belgian Hares and Bees.

Prof. Cook was right in saying that Belgian hares were all right to combine with the bee-business, as few animals can be found that will yield more profit than Belgian hares. This can not be said of bees in this locality, as we have had nothing but short crops and failures for over 10 years, which has made it necessary for me to add something else to bee-keeping.

Last season was one of the poorest we have ever had. I did not get a pound of surplus honey, and had to feed sugar-syrup in order to keep the queen-rearing colonies in good condition for rearing queens.

After purchasing the Belgian hares the first and most important thing is to have a place for them that is dry and well ventilated, as they can not stand dampness, but can endure almost any amount of cold if they are dry and not exposed to a draft.

They are reared in a small room called a hutch, about 2x4x2 feet, or larger if convenient. Place a nest in one end of it, 1x2x1

We want *

To sell you BEE-SUPPLIES!

Our line is all new and complete. Send for our Illustrated Catalog; it will convince you that our Dovetail Hive is the best on the market. Our prices are right, and our service is prompt.

Fred W. Muth & Co.

S. W. Cor. Front & Walnut Sts., CINCINNATI, O.
Please mention Bee Journal when writing.

BEES WANTED!

50 TO 75 COLONIES.

If you have any for sale write to H. G. QUIRIN, PARKERTOWN, OHIO.

13A4t

BEE HIVES, SECTIONS AND ALL BEE - KEEPERS' SUPPLIES.
Big Catalog Free. Write now. Leahy Mfg. Co., 2415 Alta Sita, E. St. Louis, Ill.

6A2t Mention the American Bee Journal.

HORSE-HIGH
... BULL-STRONG ...
With our Duplex Automatic Ball Bearing Woven Wire Fence Machine, any farmer can make 100 styles, and from 50 to 70 rods a day of the best and most practical fence on earth at a cost for the wire to make it of from 20 to 30c. per rod. We sell Ornamental Fence and Gates, Farm Fence and Gates, Plain, Barbed and Coiled Spring Wire direct to the farmer at wholesale prices. Catalogue free.
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POULTRY BOOK FREE, 64 pages, illustrated with 3 mos. trial subscription to our paper, the INLAND POULTRY JOURNAL, Indianapolis, Ind.

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Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, \$1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS, 6A2t Spring Hill, Tenn.

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PAN AMERICAN EXPOSITION.

Nothing since the World's Fair, at Chicago, in 1893, has elicited the widespread interest that is manifest, all over the world, in the Pan-American Exposition, which is to be held in Buffalo, from May 1 to Nov. 1, 1901.

The purpose of the Exposition is to illustrate the progress of the countries of the Western Hemisphere during a century of wonderful achievements, and to bring together into closer relationship the people composing the many States, Territories and Countries of the three Americas. Acting under proper authority, the President of the United States has invited all the Republics and Colonies of the American Hemisphere to join in commemorating the close of the Nineteenth and beginning of the Twentieth Century, by holding this International Exposition on the Niagara Frontier.

For this important event, the Nickel Plate Road has issued an attractive, descriptive folder-pamphlet, elaborately illustrating the Pan-American Exposition, the buildings and grounds.

The Nickel Plate Road is the short line between Chicago and Buffalo, and affords competent train service from Chicago to Buffalo, New York City, Boston, and all points East, with trains of modern equipment, on which no extra fares are charged; also dining-car service of the highest order. It affords meals in its dining-cars on the individual club plan, ranging in price from 35 cents to \$1.00.

Call on any ticket agent for Pan-American folder of the Nickel Plate Road, or address John Y. Calahan, General Agent, 111 Adams St., Chicago.

Parties desiring hotel or rooming accommodations at Buffalo or Niagara Falls, during any period of the Pan-American Exposition, are invited to apply by letter or otherwise to F. J. Moore, General Agent, 291 Main St., Buffalo, N. Y.

No. 4-12A3t

feet. Here the doe will make her nest from soft litter that should be given her about two weeks before she kindles. She will make a hole in this litter, and line and cover it with her own fur. She nurses her young late only at night and early in the morning, and if she ever lies with them I have not seen her.

The feeding is also an important point. The standard feed for them is alfalfa or clover hay with oats, bran or chaff. Does with litters should be given extra care and feed, especially if the litters are large, and they quite frequently number 11 and 12. Bread and milk is easily digested, and is good food for the youngsters from the time they are born to the 16th or 20th day thereafter. Feed should be furnish to all nursing does, as neglect at this time would interfere with the flow of milk, and cause the loss of the litter. We usually keep feed before them all the time, so that they may eat when they feel inclined to do so.

The meat of the Belgian hare is very good, and as they breed the year around we have a supply of choice fresh meat every day in the year.

The Belgian hares make nice pets if treated kindly, and especially delight the children.

Page Co., Iowa, March 7. J. L. STRONG.

Quality and Price.—One of the first things the successful business farmer learns is that it does not pay to buy cheap and shoddy goods—"cheap and nasty"—some one has called them. We believe that this is especially true of vehicles. It takes good material to make a good carriage or buggy, and good material costs money. It's the same way with the work that goes into it; it cannot be built for nothing. So when we see a vehicle advertised at an extremely low price we are apt to think that it is dear at any price, and so it is, for a shoddy vehicle, besides never looking well, costs more than a good one for repairs, to say nothing of the danger of breaking your neck every time you get into it. But, on the other hand, a man need not pay a fancy price to get a really good job, especially when he can buy a first-class vehicle from the maker direct. Take the famous Split Hickory Vehicles, for example. Now that the manufacturers of these well-known goods have decided to discard jobbers and dealers and sell direct to customers, you can buy a vehicle which you know is right all the way thru, a vehicle with a written warranty behind it, shipped to you on approval, for one-third less than dealers ask. There is not a better line of vehicles in the world than the "Split Hickory." Not only are they substantially made, but they have a style and finish appearance found in few makes, and a dozen little conveniences covered by patents, which make them the leaders wherever introduced.

The new catalog, showing Split Hickory styles, is a most valuable book on vehicles, containing many things every owner of a carriage should know, whether he buys a Split Hickory or not. A copy will be sent to any interested reader who addresses the Ohio Carriage Co., 6 West Broad St., Columbus, Ohio. Please mention the American Bee Journal when writing.

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That covers the whole Apicultural Field more completely than any other publication, send \$1.25 to

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TWENTY MILLIONS IN GOLD

From Alaska during the year 1900.

Five millions of this came from the Nome district. Government officials estimate the output from the Nome district will be doubled the coming season. The Bluestone, Kougarok and Pilgrim rivers have been found very rich. There is hardly a creek from Port Clarence to Norton Sound in which the precious metal is not found, and hundreds of creeks unprospected. A rich strike has been made on the Yellow river, a tributary of the Kuskokwim.

For full information regarding routes, steamship accommodations and rates to all points in Alaska, address C. N. Souther, General Agent, Passenger Department, C. M. & St. P. R'y, 95 Adams Street, Chicago. 13A3t

Do You Want a High Grade of Italian Queens Or a CHOICE STRAWBERRY?

CHICAGO, ILL., Jan. 28, 1901.
D. J. BLOCHER, Esq., Pearl City, Ill.

Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of Queens	1	6	12
GOLDEN QUEENS.			
Untested	\$1.00	\$5.00	\$9.00
Tested	1.25	7.00	11.00
Select Tested	2.00	10.00	17.00
Breeders	5.00		

HONEY QUEENS.

Untested	\$1.00	\$5.00	\$9.00
Tested	1.25	7.00	11.00
Select Tested	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.

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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. \$1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

THE RURAL CALIFORNIAN,

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A Journal that is over a quarter of a century old and is still growing must possess intrinsic merit of its own, and its field must be a valuable one. Such is the

American Poultry Journal.
50 cents a Year. Mention the Bee Journal.

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

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THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

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BEES **QUEENS**
Smokers, Sections,
Comb Foundation
And All Supplies
cheap. Send for
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HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, March 20.—The choice grades of white comb honey sell at 16 cents, with supply about equal to the demand; all other grades are slow of sale at the following range of prices: Fair grades of white, 14@15c; best amber, 12@13c; mix colors, 10@11c; buckwheat, 9@10c. Extracted, white, ranges from 7@8c; amber, 6@7@8c; buckwheat, 5@6@7c. All of the extracted is governed by quality and flavor in the range of prices, the lowest figures in either of the colors applies to the sour, or off-flavored, and unripened. Beeswax, 30c.

R. A. BURNETT & CO.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at 15@16c; No. 1 white at from 13@14c; amber at 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive, and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7@8c; light amber, 6@7@8c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 23@28@9c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELKEN.

BUFFALO, March 21.—Much better demand for fancy comb at 15@16c; extras, 17c; common, dark, etc., 9@10 to 14c. Extracted, 6@8c, and never in much demand. BATTERSON & CO.

OMAHA, Mar. 30.—Demand fair; stocks light. Fancy white comb, 15@16c. Extracted moving slowly at 7@8c for white. We do not look for any particular change for the balance of the season, as present supply will just about be sufficient to supply the trade until new crop gets into market.

DETROIT, Mar. 21.—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6@7@8c; amber and dark, 5@6c. Beeswax, 27@28c.

M. H. HUNT & SON.

CINCINNATI, March 21.—The demand for comb honey is nearly over, the stock of it also well cleaned up. Fancy white brings yet 16c. Extracted is in fair demand; dark sells for 5@6c; better grades bring 6@7@8c; fancy white clover from 8@9c@9c.

C. H. W. WEBER.

KANSAS CITY, Mar. 23.—Receipts light; demand normal at steady prices. Fancy white comb, 15@16c; no amber on market. Extracted, 8@9c. Beeswax scarce, steady demand, 25@30c.

W. R. CROMWELL PRODUCE CO.,
Successors to C. C. Clemons & CO.

ALBANY, N. Y., March 23.—Honey market is slow on all grades of comb honey. Extracted, white, 7@8c; dark, 5@5@6c.

H. R. WRIGHT.

BOSTON, March 21.—Fancy No. 1 white in carrots, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8@9c; light amber, 7@8@8c. Beeswax, 27c.

BLAKE, SCOTT & LEE.

SAN FRANCISCO, Feb. 6.—White comb 13@14 cents; amber, 11@12@13c; dark, 8@9c. Extracted, white, 7@8@8c; light amber, 6@7@8c; amber, 5@6@7c. Beeswax, 26@28c.

Considering the light output of honey last spring from California apiaries, present offerings are of tolerably liberal volume and are mostly of amber grades. The market is slow at the quotations. It is reported on good authority that adulterated and imitation honey is being dealt out in considerable quantity, which accounts in a great measure for the very limited business doing in the pure article.

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We can furnish you with The A. I. Root Co.'s goods at wholesale or retail at their prices. We can save you freight, and ship promptly. Market price paid for beeswax. Send for our 1901 catalog.

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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,
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JAMESTOWN, N. Y.

W. M. GERRISH, East Notingham, N. H., carries a full line of our goods at catalog prices. Order of him and save freight.

WANTED!

25 to 50 colonies of bees in good condition. Must be cheap.

S. J. DUNNE,
165 S. Forest Ave.,
11A1f RIVER FOREST, COOK CO., ILL.

SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white)	70c	\$1.20	\$2.75	\$5.00
Sweet Clover (yellow)	\$1.50	2.80	6.25	12.00
Crimson Clover	70c	1.20	2.75	5.00
Aislike Clover	90c	1.70	3.75	7.00
White Clover	90c	1.70	4.00	7.50
Alfalfa Clover	80c	1.40	3.25	6.00
Japanese Buckwheat	30c	.50	1.00	1.60

Prices subject to market changes.
Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for cartage, if wanted by freight, or 10 cents per pound if wanted by mail.

GEORGE W. YORK & CO.
144 & 146 Erie Street, - CHICAGO, ILL.



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To say to the readers of
the BEE JOURNAL that

Doolittle ...

has concluded to sell
QUEENS in their season
during 1901, at the following prices:

- 1 Untested Queen ... \$1.00
- 3 Untested Queens... 2.25
- 1 Tested Queen 1.25
- 3 Tested Queens.... 3.00
- 1 select tested queen 1.50
- 3 " " Queens 4.00
- Select Tested Queen,
last year's rearing. 2.50
- Extra selected breeding,
the very best... 5.00

Circular free, giving particulars regarding each class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
Borodino, Onondaga Co., N. Y.

11A26t

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We guarantee satisfaction. ***

What more can anybody do? BEAUTY,
PURITY, FIRMNESS, No SAGGING, No
LOSS.
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Why does it sell so well? ***

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material.
We sell the best Veils, cotton or silk.

BEE-KEEPERS' SUPPLIES OF ALL KINDS.

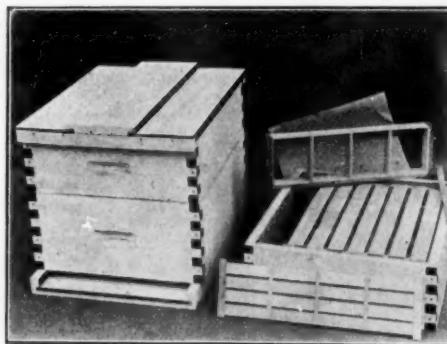
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LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, \$1.25, by mail.

Beeswax wanted at all times.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

The Danzenbaker Hive.



THIS HIVE is rapidly gaining favor, especially in the Eastern States, where tall sections and closed-end frames are used to a considerable extent; and within the last year or so the Danzenbaker system has been working its way into California, Oregon, and even into Cuba. At the Paris Exposition the hive was awarded a gold medal, and at some of the honey exhibits in this country the comb honey from it has carried off the first prize. Some of the finest honey we have ever seen was produced in Danzenbaker sections; and in the opinion of those who have given the hive and system an extended trial, there is nothing to equal it for the production of a fine article of comb honey. Indeed, in some markets comb honey in Danz. sections commands one and sometimes two cents more per pound than other fancy honey.

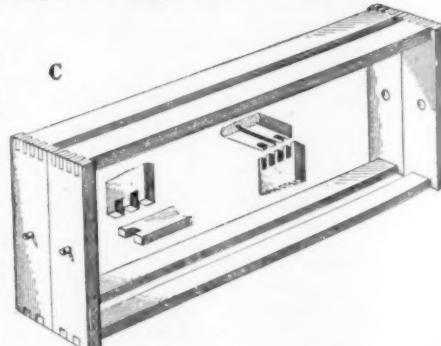
Mr. Danzenbaker has long been an advocate of warm supers and warm hives; for he has always insisted that, for the production of comb honey, the super and hive must be warm in order to do the best work in wax-building. To a very great extent the Danzenbaker hive is double-walled; and the sections in the super are especially protected by a special paraffine mat which goes with every hive.

The brood-chamber itself has the same dimensions as the regular 10-frame Dove-tailed Langstroth hive, except that it is shallow; that is, it takes 10 closed-end brood-frames $\frac{7}{8}$ inches deep and 17 inches long. Each brood frame is supported by a pivot in the center of the end-bars, so that it may be readily reversed. These brood-frames retain all the advantages of frames peculiar to this class; viz., being reversible, they insure the building of combs to the bottom-bar; as there is no opportunity for air-currents around the ends of the frames, combs, as a rule, are built clear out to the end bars. This one feature makes them warmer for winter. When a division-board is used on each side we have, practically, a dead-air space around the ends and sides of the brood nest.

The Danz. brood-nest has the same capacity as the 8-frame Dov. hive—a capacity that has generally been recognized as the best for the production of comb honey. But Mr. Danzenbaker has gone further by making his brood-nest shallower and wider—increasing the amount of surface for the super, and bringing the brood itself—a feature which many consider important—closer to the surplus.

The Danzenbaker brood-chamber can be used with any of our 10-frame supers, either comb or extracted; with any of the 10-frame covers, bottoms, or hive-stands, or with the 10-frame Jumbo hive. There are four patents on the Danz. hives and fixtures.

NOTICE.—The Danzenbaker hive is not made in the 8-frame widths.



THE A. I. ROOT CO., Medina, Ohio.

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CHICAGO, ILL.,
are headquarters for ROOT'S BEE-KEEPERS' SUPPLIES IN CHICAGO.
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